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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/575,342	05/19/2000	Jouni Rapakko	460-009420-US(PAR)	9989

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EXAMINER
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VU, TUAN A

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 11/25/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/575,342

Applicant(s)

RAPAKKO ET AL

Examiner

Tuan A Vu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. This action is responsive to the Applicant's response filed August 18, 2003.

As indicated in Applicant's response, claims 1, 7, 14 have been amended, and claims 15-28 added. Claims 1-28 are pending in the office action.

#### *Claim Objections*

2. Claims 14 and 28 are objected to because of the following informalities: the term 'resealable' (line 5) should be corrected to being 'releasable'. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8, 21, 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8, 21 recite respectively limitations "the second phase" (claim 8, line 4) and "said phases" (claim 21, line 11). There is insufficient antecedent basis for these limitations in the claims. Examiner would interpret 'second phase' as being the step to load the user interface module; and 'said phases' as being the 2 steps of preparing the loading of user interface module and of actually loading the user interface module.

Claim 21 recites "wherein the loading can be stopped between said phases" (lines 10-11); there is insufficient structural element described in the main body of the claim as to support the action of stopping of the loading process as recited, i.e. there no relationship between any of the structural element listed as comprising by the device (e.g.

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'means for') and the act of stopping as recited, or no indication as to which element comprising the device is performing the act of stopping as recited. Examiner would interpret this as if any event can trigger the stopping of the loading between the 2 phases.

Claim 22 recites limitation "the second phase" ( last line), there is also insufficient antecedent basis for such limitation.

5. Claims 15, 21 and 28 recite "wherein the loading can be stopped..." ( last lines of respective claims). The claim should specify whether a limitation is actually performed or not performed. The term "can" does not indicate whether a definite action is being performed, to further limit the main body of the claim. Examiner will interpret this as if the limitation reads "... the loading is capable of being stopped ...", i.e. it does not have to be stopped.

As a consequence, claims 9-11, and 16-25 are also rejected for being dependent on a rejected claim.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Settsu et al., USPN: 6,374,353, in view of Garney, USPN: 5,319,751, and further in view of Chrabaszcz , USPN: 6,263,387.

As per claim 1, Settsu discloses a method for loading operating software module from a boot device (e.g. col.1, li.53) comprising a basic module ( e.g. *mini OS* at col.1,

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li.51-55) and a user interface module ( e.g. *OS* col.1, li.55-57) wherein in the first phase includes loading and start-up of the basic module (e.g. col.3, li. 48-60) and the second phase includes loading and executing the user interface module (e.g. col.3 li.60 to col.4 li. 14).

However, Settsu does not expressly disclose conducting the second phase of software loading when an expansion card is coupled to an electronic device although Settsu does teach a method for event-driven loading of a second software module to reduce the time required to boot an information processing apparatus (col. 1, li.45-65). Garney, in a method to activate/configure a processing device with software loaded from the removable resources being attached thereon, teaches the insertion of a *feature card* analogous to the expansion card as a event triggering the dynamic reconfiguration of system resources in an information processing system (col.3, li.19-20). Garney teaches this art as a means of efficiently allocating system resources in loading a software program, specifically a device driver (col.4, li.32-8). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to trigger the loading of a second software module as taught by Settsu with the card insertion event of Garney. This would have been obvious because a specific triggering event resulting in the subsequent allocation of system resources, such as the card insertion taught by Garney, would reduce the initial boot time of a computing device as taught by Settsu (col.1, li.31-40).

Nor does Settsu or Garney explicitly disclose that software module to load is an user interface software. The operating software as taught by Settsu suggests a certain level of user interface inherently enclosed with the operating system module or software,

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e.g. error reporting during booting process; and that the loading of device driver by Garney suggests a form of user interface module to report error to the user ( e.g. Fig. 10-11). Hence this limitation is implicitly disclosed.

Nor does Settsu or Garney expressly disclose that the second phase is conducted when the expansion card is coupled to the processing device; nor that the basic module receives a signal about attaching the expansion card and the basic module loads the module. The loading of software upon hot plugging (e.g. Windows system reboot or detection via Plug and Play) of attachable cards or mass storage device and subsequent dynamic reconfiguration of recipient processor operating system in order to accept new software/device driver to operate added software or hardware was a known concept at the time the invention was made. Pre-installing software to detect the hot-adding of device is evidenced by Chrabaszczy's teachings as to complement the first phase's mini OS as taught above by Settsu ( Settsu: Figs. 22-30), and the driver stub enabling the subsequent full card module loading by Garney (Garney: col. 3, line 40 to col. 4, line 7 ).

Chrabaszczy, in a method to dynamically configure a processor upon reception of hot-plugged device, or expansion card analogous to that of Settsu ( enhanced by Garney's teachings), discloses installed software to effect dynamic detection of subsequent adding of hot-plugged device, as well as identifying the added device (or expansion card), managing of resources and communications to integrate the added card or device ( e.g. *detection module* - col. 4, line 5 to col. 5, line 35; Fig. 2), implicitly disclosing the inherent reception of signals due to the physical attachment of such expansion device or card. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the suggested full loading of the software module from the

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mini-Os by Settsu or driver stub by Garney so to implement the pre-installed hot plug detection module as taught by to enable establishing appropriate detection to dynamically allocate identification and resource allocation to integrate the added card. The motivation would have been obvious because pre-installed basic module as taught by Chrabaszcz, such module aimed at detection event such as hot plugging of devices/cards, would expedite the identification and integration of such cards/devices without affecting the flow of the operation of the receiving processing unit ( see Chrabaszcz, col. 3, lines 55-63).

**As per claim 2**, Settsu further teaches a method wherein the first module controls the execution of the second phase (col. 1, li.62-64). Settsu further teaches a method wherein a device driver interfaces with an application program interface which communicates with said basic module wherein the loading and startup of the user interface module is initiated from the basic module (col. 3, li.61 to col. 4, li.7).

**As per claim 3**, Settsu further teaches a method wherein a device driver interfaces with an application program interface which communicates with said basic module wherein the loading and startup of the user interface module is initiated from the basic module (col. 3, li.61 to col. 4, li.7).

**As per claim 4**, Settsu does not expressly disclose wherein coupling an expansion card to a electronic device an interrupt signal is produced and information on the coupling is transmitted to a device driver. Garney additionally teaches a method wherein coupling an expansion card to a electronic device an interrupt signal is produced and information on the coupling is transmitted to a device driver (col.8, li.21-25). This is shown as a means of initializing memory resource allocation by the system (col.8,

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li.29-41). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the loading of a user interface module as taught by Settsu with the interrupt signal generation taught by Garney. It would have been obvious because an interrupt signal produced by a card insertion, as taught by Garney above, would reduce the initial boot time of a computing device as taught by Settsu (col.1, li.45-50) by notifying a system of the appropriate time to allocate system resource for a related application.

As per claim 5, Settsu does not expressly disclose wherein the decoupling of an expansion card halts processing of a user interface module without interrupting the basic module. Garney teaches a method wherein the decoupling of the expansion card halts processing of a secondary software module without interrupting the basic module (col.4, li.26-31). This is shown as a means of effectively allocating system memory resources (col.8, li.29-41).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the dual step loading of a user interface module as taught by Settsu with the method of halting processing of the secondary software module without interrupting the basic module taught by Garney. By not interrupting the basic module, Garney allows for an efficient means of restarting a secondary module from a basic module on reinsertion of an expansion card (col.14, li.25-42). It would have been obvious to modify Settsu with the method of Garney, because it would provide an efficient means of configuring system resources to reduce the initial boot time of a computing application as suggested by Settsu (col.1, li.34-40) and taught by Garney (col.4, li.22-3).



**As per claim 6**, Settsu does not expressly disclose a method wherein memory is allocated for a user interface module when said module is loaded and said memory is deallocated when an expansion card removed from an electronic device. Garney teaches a method wherein memory is allocated for a user interface module when said module is loaded (col.4, li.4-7) and said memory is deallocated when an expansion card is removed from an electronic device (col.4, li.25-31). This is shown as a means of efficient memory resource allocation by a computer system (col.8, lines 29-41).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the method of Settsu as described above with the method of dynamic memory allocation taught by Garney. It would have been obvious to modify Settsu in this way, because Garney provides an efficient means of configuring system memory resources to reduce the burden on a computing system at boot time as taught by Settsu (col. 10, li.36-9).

**As per claims 7-9**, these are the apparatus claims corresponding to the method of claims 1-3, respectively. The claims are rejected under the same arguments as cited above, with Column 2, Line 1 referencing the apparatus (information process apparatus).

**As per claims 10-11**, these claims represent an apparatus performing a method corresponding to the method of claim 3, hence are rejected using the same arguments as cited above, with Column 2, Lines 1, and 10-11 referencing the apparatus (an information process apparatus with a OS loading and initialization processing module).

**As per claim 12**, Garney further teaches that the expansion card comprises a transmitter/receiver unit and power amplifier (e.g. device driver - col.1, li.60 to col.2, li.4). At the time of the invention, it was a well-known concept to one of ordinary skill in

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the art that a power amplifier is commonly used in the output stage of a signal producing device to isolate output impedance. Additionally, it was also well-known in the art that a driver acts as transmitter/receiver unit to control components of a specific computer resource, and that card like modem or game adapter card come with a speaker being amplified by a power amplifier. Hence if Garney ( in combination with Settsu) does not already provide a high frequency power amplifier at the output stage of the transmitting unit, it would have been obvious to a person of ordinary skill in the art to modify Garney's expansion card so that it does come with one such amplifier to generate audio or signal with frequencies capable of being amplified for securing distance transmission of signal or impedance matching purposes.

**As per claim 13**, Settsu further teaches an apparatus for performing the method of claim 1 wherein the electronic device is a data processor (processing apparatus col.2, li.1).

**As per claim 14**, Settsu further teaches an storing means for performing the method of claim 1 (e.g. *memory* - col.2, li.2; Fig. 12).

**As per claim 15**, Settsu discloses a method for loading a operating software of a boot device in a electronic device ( Figs. 15-23) comprising means for loading, starting and executing program modules, such software is divided into a basic module (e.g. *mini OS* - col.1, li.51-55 ) and a full operating module (e.g. *OS* - col.1, li.55-57), and the loading is executed in 2 phases, the first phase being for loading and starting the basic module loading is conducted (e.g. col.3, li. 48-60) and the second phase being for loading the full operating module (e.g. col.3 li.60 to col.4 li. 14)

e.g. col.1, li.53) comprising a basic module ( e.g. *mini OS* at col.1, li.51-55) and a user interface module ( e.g. *OS* col.1, li.55-57) wherein in the first phase includes

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loading and start-up of the basic module (e.g. col.3, li. 48-60) and the second phase includes loading and executing the user interface module (e.g. col.3 li.60 to col.4 li. 14).

Settsu does not disclose that the booting device is an expansion card; but the rejection of this limitation has been set forth in claim 1 using the teachings by Garney in combination with Settsu.

Nor does Settsu in combination with Garney disclose that the second phase is conducted when the expansion card is coupled to the electronic device; but this limitation has been addressed in claim 1 using additional teachings by Chrabaszcz.

Settsu does not explicitly disclose that such loading can be stopped between the first phase and the second phase, but this is implicitly disclosed because any event like abrupt loss of power or mechanical trauma to the electronic device or power supply can trigger the loading process to be interrupted.

Nor does Settsu or Garney expressly disclose that the software to load onto the electronic device is a user interface module; but this limitation has been implicitly disclosed by virtue of the corresponding rationale as set forth claim 1.

**As per claims 16-20**, refer to respective rejections of claims 2-6.

**As per claim 21**, this is an apparatus version of claim 15, hence is rejected using the corresponding rejections as set forth therein.

**As per claims 22-27**, refer to respective rejections of claims 8-13.

**As per claim 28**, this is a storing means version of claim 15, hence is rejected using the corresponding rejections as set forth therein, the storing means being inherent in a processing unit like the computing system as taught by Settsu.

***Response to Arguments***

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8. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Applicants have argued ( Applicant's remarks, pg. 13-14) that Settsu does not teach the coupling with an expansion card to effect the loading of software into the processing electronic device; and does not relate to an user interface module. The current rejection establishes how an event-based triggering of such loading is accomplished with a form of expansion card via Garney teachings; and both Settsu and Garney disclose an implicit form of user interface module being loading when accomplishing respective loading during first and second phases.

Applicants have argued that the combination of Garney and Settsu would not remedy to the lack of expansion card in Settsu and the feature card addition by Garney (Applicant's remarks, pg. 15-16, top). The current rejection now addresses how Chrabaszcz remedies to the lack of *expansion card coupling* in the Garney/Settsu combination; and how the *loading capable of being stopped* limitation is overcome.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (703)305-7207. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662.

**Any response to this action should be mailed to:**

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**or faxed to:**

(703) 872-9306 ( for formal communications intended for entry)

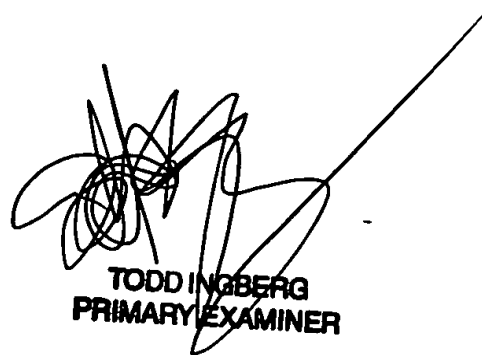
**or:** (703) 746-8734 ( for informal or draft communications, please label  
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Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington. VA. , 22202. 4<sup>th</sup> Floor( Receptionist).

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the receptionist whose telephone number is (703) 305-  
3900.

VAT  
November 20, 2003



TODD INGBERG  
PRIMARY EXAMINER